

LISTING OF THE CLAIMS

1. (Previously Presented) A composition comprising
an immunostimulatory nucleic acid comprising the nucleotide sequence of SEQ ID NO:1,
wherein the immunostimulatory nucleic acid has a nucleotide backbone comprising at least one
phosphorothioate modification.
2. (Previously Presented) The composition of claim 1, wherein the immunostimulatory
nucleic acid consists of the nucleotide sequence of SEQ ID NO:1.
3. (Previously Presented) The composition of claim 1, further comprising an antigen,
wherein the antigen is not a nucleic acid vector encoding the antigen.
4. (Original) The composition of claim 3, wherein the antigen is selected from the group
consisting of a microbial antigen, a cancer antigen, and an allergen.
5. (Withdrawn and Original) The composition of claim 4, wherein the microbial antigen is
selected from the group consisting of a bacterial antigen, a viral antigen, a fungal antigen and a
parasitic antigen.
- 6 – 7. (Cancelled)
8. (Original) The composition of claim 3, wherein the antigen is a peptide antigen.
9. (Original) The composition of claim 1, further comprising an adjuvant.
10. (Original) The composition of claim 9, wherein the adjuvant is a mucosal adjuvant.
11. (Original) The composition of claim 1, further comprising a cytokine.

12. (Previously Presented) The composition of claim 1, further comprising a therapeutic agent selected from the group consisting of an anti-microbial agent, an anti-cancer agent, and an allergy/asthma medicament.

13. (Withdrawn and Original) The composition of claim 12, wherein the anti-microbial agent is selected from the group consisting of an anti-bacterial agent, an anti-viral agent, an anti-fungal agent, and an anti-parasite agent.

14. (Original) The composition of claim 12, wherein the anti-cancer agent is selected from the group consisting of a chemotherapeutic agent, a cancer vaccine, and an immunotherapeutic agent.

15. (Withdrawn and Original) The composition of claim 12, wherein the allergy/asthma medicament is selected from the group consisting of PDE-4 inhibitor, bronchodilator/beta-2 agonist, K⁺ channel opener, VLA-4 antagonist, neurokin antagonist, TXA₂ synthesis inhibitor, xanthanine, arachidonic acid antagonist, 5 lipoxygenase inhibitor, thromboxin A₂ receptor antagonist, thromboxane A₂ antagonist, inhibitor of 5-lipoxygenase activation protein, and protease inhibitor.

16 – 18. (Cancelled)

19. (Previously Presented) The composition of claim 1, wherein the nucleotide backbone is chimeric.

20. (Previously Presented) The composition of claim 1, wherein the nucleotide backbone is entirely modified.

21. (Original) The composition of claim 1, further comprising a pharmaceutically acceptable carrier.

22. (Cancelled)

23. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid includes at least four CpG motifs.

24 – 27. (Cancelled)

28. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated as a nutritional supplement.

29. (Original) The composition of claim 28, wherein the nutritional supplement is formulated as a capsule, a pill, or a sublingual tablet.

30. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated for local administration.

31. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated for parenteral administration.

32. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated in a sustained release device.

33. (Original) The composition of claim 1, wherein the immunostimulatory nucleic acid is formulated for delivery to a mucosal surface.

34 – 43. (Cancelled)

44. (Original) The composition of claim 32, wherein the sustained release device is a microparticle.

45. (Cancelled)

46. (Withdrawn and Previously Presented) A method for stimulating an immune response in a subject in need thereof comprising
administering to a subject the immunostimulatory nucleic acid of claim 1, in an amount effective to stimulate an immune response.

47. (Withdrawn and Original) The method of claim 46, wherein the subject has or is at risk of developing an infection.

48. (Withdrawn and Original) The method of claim 47, wherein the infection is selected from the group consisting of a bacterial infection, a viral infection, a fungal infection, and a parasite infection.

49. (Withdrawn and Original) The method of claim 48, wherein the viral infection is selected from the group consisting of Human immunodeficiency viruses (HIV-1 and HIV-2), Human T lymph tropic virus type I (HTLV-I), Human T lymphotropic virus type II (HTLV-II), Herpes simplex virus type I (HSV-1) Herpes simplex virus type 2 (HSV-2), Human papilloma virus (multiple types), Hepatitis A virus, Hepatitis B virus, Hepatitis C and D viruses, Epstein-Barr virus (EBV), Cytomegalovirus and Molluscum contagiosum virus.

50. (Withdrawn and Original) The method of claim 49, wherein the viral infection is a herpes simplex virus infection.

51. (Withdrawn and Original) The method of claim 46, wherein the subject has or is at risk of developing allergy.

52. (Withdrawn and Original) The method of claim 46, wherein the subject has or is at risk of developing asthma.

53. (Withdrawn and Original) The method of claim 46, wherein the subject has or is at risk of developing a cancer.

54. (Withdrawn and Original) The method of claim 46, further comprising administering an antigen to the subject.

55. (Withdrawn and Original) The method of claim 53, wherein the antigen is selected from the group consisting of a microbial antigen, a cancer antigen, a self antigen, and an allergen.

56. (Withdrawn and Original) The method of claim 54, wherein the microbial antigen is selected from the group consisting of a bacterial antigen, a viral antigen, a fungal antigen, and a parasitic antigen.

57. (Withdrawn and Original) The method of claim 55, wherein the antigen is derived from a microorganism selected from the group consisting of herpesviridae, retroviridae, orthomyxoviridae, toxoplasma, haemophilus, campylobacter, clostridium, E.coli, and staphylococcus.

58. (Withdrawn and Original) The method of claim 46, wherein the immune response is an antigen-specific immune response.

59 – 63. (Cancelled)

64. (Withdrawn and Original) The method of claim 46, further comprising administering to the subject a second therapeutic agent.

65. (Withdrawn and Original) The method of claim 64, wherein the second therapeutic agent is an anti-microbial agent.

66. (Withdrawn and Original) The method of claim 65, wherein the anti-microbial agent is selected from the group consisting of an anti-bacterial agent, an anti-viral agent, an anti-fungal agent, and an anti-parasite agent.

67 – 70. (Cancelled)

71. (Withdrawn and Original) The method of claim 46, wherein the immunostimulatory nucleic acid has a nucleotide backbone which includes at least one backbone modification.

72. (Withdrawn and Original) The method of claim 71, wherein the backbone modification is a phosphorothioate modification.

73. (Withdrawn and Original) The method of claim 71, wherein the nucleotide backbone is chimeric.

74. (Withdrawn and Original) The method of claim 71, wherein the nucleotide backbone is entirely modified.

75 – 76. (Cancelled)

77. (Withdrawn and Original) The method of claim 46, wherein the immunostimulatory nucleic acid is administered orally.

78. (Withdrawn and Original) The method of claim 46, wherein the immunostimulatory nucleic acid is administered locally.

79. (Withdrawn and Original) The method of claim 46, wherein the immunostimulatory nucleic acid is administered parenterally.

80. (Withdrawn and Original) The method of claim 46, wherein the immunostimulatory nucleic acid is administered in a sustained release device.

81. (Withdrawn and Original) The method of claim 46, wherein the immunostimulatory nucleic acid is administered to a mucosal surface.

82 – 83. (Cancelled)

84. (Withdrawn and Original) The method of claim 81, wherein the mucosal surface is selected from the group consisting of an oral, nasal, rectal, vaginal, and ocular surface.

85. (Withdrawn and Original) The method of claim 46, further comprising isolating an immune cell from the subject, contacting the immune cell with an effective amount to activate the immune cell of the immunostimulatory nucleic acid and re-administering the activated immune cell to the subject.

86 – 88. (Cancelled)

89. (Withdrawn and Original) The method of claim 46, wherein the subject is a human.

90. (Withdrawn and Original) The method of claim 46, wherein the subject is selected from the group consisting of a dog, cat, horse, cow, pig, sheep, goat, chicken, monkey and fish.

91 – 94. (Cancelled)

95. (Withdrawn and Previously Presented) The method of claim 53, wherein the cancer is selected from the group consisting of biliary tract cancer; bone cancer; brain and CNS cancer; breast cancer; cervical cancer; choriocarcinoma; colon cancer; connective tissue cancer; endometrial cancer; esophageal cancer; eye cancer; gastric cancer; Hodgkin's lymphoma; intraepithelial neoplasms; larynx cancer; lymphomas; liver cancer; lung cancer (e.g. small cell and non-small cell); melanoma; neuroblastomas; oral cavity cancer; ovarian cancer; pancreas cancer; prostate cancer; rectal cancer; sarcomas; skin cancer; testicular cancer; thyroid cancer; and renal cancer.

96. (Withdrawn and Previously Presented) The method of claim 46, further comprising administering an antibody specific for a cell surface antigen, and wherein the immune response results in antibody dependent cellular cytotoxicity (ADCC).

97. (Cancelled)

98. (Withdrawn and Previously Presented) A method for inducing an innate immune response, comprising
administering to the subject the immunostimulatory nucleic acid of claim 1 in an amount effective for activating an innate immune response.

99. (Cancelled)

100. (Previously Presented) A composition comprising
an immunostimulatory nucleic acid comprising the nucleotide sequence of SEQ ID NO:1, wherein the immunostimulatory nucleic acid is 24-100 nucleotides in length.

101. (Previously Presented) A composition comprising
an immunostimulatory nucleic acid comprising the nucleotide sequence of SEQ ID NO:1, and an antigen, wherein the antigen is not a nucleic acid vector encoding the antigen.

102. (Previously Presented) The composition of claim 100, wherein the immunostimulatory nucleic acid is single stranded.

103. (Previously Presented) The composition of claim 100, wherein the immunostimulatory nucleic acid consists of the nucleotide sequence of SEQ ID NO:1.

104. (Previously Presented) The composition of claim 100, wherein the immunostimulatory nucleic acid has a nucleotide backbone comprising at least one modification.

105. (Previously Presented) The composition of claim 100, further comprising an antigen, wherein the antigen is not a nucleic acid vector encoding the antigen.